

Filed concurrently herewith is a REQUEST FOR APPROVAL OF ADDITIONAL DRAWING FIGURES AND SUBMISSION OF CORRECTED FORMAL DRAWINGS to respond the examiner's drawing objections. An additional drawing sheet is proposed to be added to show in new drawing Figures 6 and 7 the spiral and band heaters described in the originally-filed specification and claims, as required by the examiner.

All of the claims were rejected as obvious based upon a combination of the Penberthy and Blumenfeld references. Although each of the references relied upon is directed to an arrangement for controlling the temperature of molten glass upstream of a discharge point, they each do so in different ways using different types of heat sources that are positioned differently. In that regard, the Penberthy reference teaches positioning several Joule effect electrodes at the floor of the glass-containing channel (see, Penberthy, col. 3, lines 30 and 31) to pass a current through the portion of the molten glass adjacent to the channel floor (see, Penberthy, col. 3, lines 34 and 35). Additionally, the Penberthy reference also teaches heat sources arranged above the upper surface of the molten glass (see, Penberthy, col. 3, lines 42 through 46). The above-the-melt heat sources are shown positioned between the surface of the melt and the lower surface of roof 16 of forehearth 10.

The Penberthy reference does not show or suggest providing resistor heating elements in each of the forehearth side walls, the bottom wall, and the roof, as recited in each of independent claims 1 and 7. Additionally, that reference also ~~does not teach or suggest temperature measurements of the wall surfaces at each~~

of those locations, nor does it teach or suggest controlling the heating elements so that the temperatures of each of the wall surfaces are substantially equal to a predetermined tapping temperature of the glass melt. Indeed, the examiner specifically recognized the shortcomings of the Penberthy teachings and also relied upon the Blumenfeld reference.

The Blumenfeld reference was cited as showing the placement of electric heating elements in the roof of a forehearth. However, as was the case with the Penberthy reference, Blumenfeld also does not show resistor heating elements in each of the forehearth side walls, the bottom wall, and the roof, as recited in each of independent claims 1 and 7. And it also does not teach or suggest temperature measurements of the wall surfaces at each of those locations, nor does it teach or suggest controlling the heating elements so that the temperatures of each of the wall surfaces are substantially equal to a predetermined tapping temperature of the glass melt.

Further in connection with the Blumenfeld reference, the examiner suggested that the reference taught spiral-shaped heating elements. However, the structure of the Blumenfeld heating elements is shown in Figures 7 and 8. As shown, those elements are merely U-shaped loops, not spirals. And regarding the suggestion that Blumenfeld can be "construed to teach a band-shaped resistor element mounted on an outer surface of the ceramic material," there is no hint of any band-shaped structure. Instead, the structure described and shown in Blumenfeld clearly contemplates a series of individual, U-shaped heating elements that extend

inwardly toward the center of a flow channel, not a resistor element having the shape of a band.

In addition to the references individually not showing or suggesting the invention as it is claimed in independent claims 1 and 7, even if those references were to be combined in some way, the combination does not suggest the claimed invention. Neither reference teaches measuring the temperatures at the surfaces of each of the side walls, the bottom wall, and the roof of an equalization zone. Nor does either reference teach temperature measurements of the wall surfaces at each of those locations, nor does it teach or suggest controlling heating elements that are positioned in each of the side walls, the bottom wall, and the roof of an equalization zone so that the temperatures of each of the wall surfaces are substantially equal to a predetermined tapping temperature of the glass melt.

Moreover, the references do not contain any hint as to how they could be combined to arrive at the invention as claimed. In that regard, it is not apparent which features of which reference are to be combined with which features of the other reference. For example, would the combination teach the inclusion in the Blumenfeld structure of Joule effect electrodes at the floor of the forehearth? Or would the combination teach the positioning of individual, U-shaped heaters, such as those illustrated in Blumenfeld's Figures 7 and 8, in the roof of the Penberthy structure, in addition to the heating elements placed above the surface of the glass melt? In short, the references do not contain any suggestions concerning how they could be combined. Accordingly, the only motivation for combining the references in the manner the examiner has done is the disclosure of the present application.

And to use as a road map or as a template an inventor's disclosure to aid in picking and choosing particular parts of references that allegedly can be combined to render obvious that which only the inventors have taught is an improper basis for rejection. Thus, the invention as claimed in claims 1 and 7 are urged to be directed to an invention that is not obvious from the teachings of the references relied upon.

Claims 2 through 6 depend from claim 1 and claims 8 through 11 depend from claim 7. Consequently, those dependent claims are also distinguishable over the references relied upon, and for the same reasons as are given above in connection with the respective independent claims. Additionally, the dependent claims contain additional recitations that serve to further distinguish the invention as so claimed from the teachings of the references relied upon.

Based upon the foregoing amendments to the drawings and to the specification, the drawing objections are believed to have been overcome. Additionally, the claims as they stand are believed clearly to patentably distinguish over the disclosures contained in the references cited and relied upon by the examiner, whether those references be considered in the context of 35 U.S.C. § 102 or of 35 U.S.C. § 103. The references, whether they are considered singly or in combination, neither teach nor suggest the claimed invention. Consequently, this application is believed to be in condition for allowance, and reconsideration and reexamination of the application is respectfully requested with a view toward the issuance of an early Notice of Allowance.

The examiner is cordially invited to telephone the undersigned attorney if this amendment raises any questions, so that any such question can be quickly

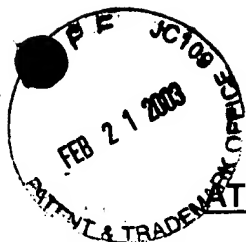
resolved in order that the present application can proceed toward allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Alfred J. Mangels', with a long horizontal flourish extending to the right.

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ATTACHMENT

(Showing the changes made in the attached Amendment by amendments to the specification as filed and as previously amended.)

The fifth full paragraph on page 5 of the specification is amended as follows:

In accordance with an embodiment, the resistor heating elements are spiral elements mounted in ceramic tubes on the outer surface of the ceramic material 3 that comprises said channel 1. It is this embodiment that is illustrated in Fig. 2 by circles 16, 17 and in Fig. 6.

The sixth full paragraph on page 5 of the specification is amended as follows:

In accordance with another embodiment, the resistor heating elements are band-shaped resistor elements that are mounted at the outer surface of the ceramic material 3 that comprises said channel 1. This embodiment is illustrated in Fig. 1 by elements 24-29 and in Fig. 7.